By

Ibrahim Konuk

Geological Survey of Canada
Terrain Sciences

Alaskan Arctic Pipeline Workshop
Regulatory Approaches

November 9, 1999

Regulatory Approaches

Background:

- **10+ years design, construction, research experince in industry**
- **15+ years regulation and research experience in regulatory agencies**
- **Regulation development**
- **Application of regulations to arctic and frontier projects with unique problems**

Regulatory Approaches

Purpose/Role:

- **Define process and requirements guided by**

  Policy Directives

  Acts

- **Implement**

- **Use good science/engineering**

- **Minimize interference and flexible**

Regulatory Approaches

Common Approaches:

- **Based on common practices (recognized)**
- **Industry or trade codes of practice**
- **Additional requirements in regulations**
- **Develops in time as the industry evolves**
- **Supplemented by requirements set by other players**
  - Underwriters

Regulatory Approaches

Canadian approach:

Regulatory Approaches

Usual difficulties challenges for new scenarios:

- **New technology**
- **New Application of existing technology**
- **New environment/Limited environmental data**
- **Few established practices - limited experience**
- **Limited science/engineering**

Regulatory Approaches

Consequence:

•Difficult to limit or control risks –

Probability of failure difficult to determine or limit

Consequences are high

•Usually addressed by the regulator by motherhood statements –

“where it can not be shown or … the applicant shall prove to the satisfaction of … that the facility provides a safety level equivalent to ….”

Recommendations for the Regulator:

- **Define objectives and develop transparent process**
- **Get involved or support collaborative research and use research to develop in-house expertise**
- **Request science/engineering based solutions – expect full explanation – "… used software!"**
- **Avoid prescribing solutions**
- **Consider third party reviews**

Regulatory Approaches

Recommendations for the Industry:

- **Educate or enlighten the regulator**
  - **Support collaborative research**
  - **Provide full information**

- **Understand public concerns – do not assume that the Regulator will take care of them**

- **Support the development of science/engineering based regulations, codes, standards**

- **Work together to establish common practices**

Regulatory Approaches